Conventionalization of grammatical anomalies through linearization*

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This article explores the diachronic influence of linear form in the grammaticalization of new constructions, especially those with distinctive functional and structural properties. For example, it is shown that the coordination of prenominal adjectives without an overt conjunction in English (*relevant, interesting research*) is due to reanalysis of an original historical structure expressing a modification relationship (*tall young man*). Examples of this type are discussed in the context of grammaticality illusions, where speakers parse structures and meanings other than intended by the speaker or when the blending of two grammatical constructions produces a syntactic amalgam. Diachronic changes based on linear form thus enter the grammar as exceptional but conventionalized constructions. The paper emphasizes the need to consider surface form as well as structure and meaning in both diachronic and synchronic analysis.

1. Introduction

Conventional but structurally or functionally exceptional expressions may require special treatment in grammatical description and analysis, but nevertheless often resemble in form other constructions in the language. In this article, grammaticalization via reanalysis of linear form is explored and shown to be a possible source for such grammatical anomalies. The remainder of the introduction motivates the perspective for this research. Specific examples of new constructions reanalyzed based on surface form are discussed in Section 3, but first Section 2 provides background on grammaticality and grammaticality illusions, which are argued here to sometimes have lasting effects on a grammar. Section 4 proposes a typology of such constructions and presents additional examples. The paper concludes with implications for synchronic and diachronic theories more generally, and brief comments about similar previous proposals.

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Synchronically, certain constructions or features in languages do not seem to fit in the grammatical system as a whole. They are exceptional. Some linguists have written about these phenomena, for example Lakoff's (1970a) *Irregularity in Syntax*, McCawley's (1988:731–753) 'Patches and Syntactic Mimicry', Culicover's (1999) *Syntactic Nuts* (because they are hard to crack), and Ross's (2014) emphasis on the contribution of rare and unusual phenomena to linguistic complexity. Most often, however, they are not considered to be prominent in a theory and are relegated to 'the periphery', even though understanding the extremes of what syntax can do is a central piece of the puzzle of understanding the human language faculty. Here a diachronic perspective is considered, asking whether their historical development may serve as a roadmap for theoretical analysis.

For example, following Ross (2014), we can measure the complexity of a grammatical system by quantifying the knowledge of a native speaker. It follows naturally then that exceptional constructions, those not explained by more general rules in a language, add to complexity. Regardless of whether languages differ in complexity or draw from a common set of structural possibilities, as the observed complexity in the grammar of any individual language increases due to unusual features, so must the explanatory power of any adequate syntactic theory. Anomalies in a language may in fact be responsible for the bulk of its complexity. Imagine that we could explain English grammar with 1,000 rules, which interact and mutually support each other for many constructions. But now imagine a 1,001st rule that must be added just because of an unusual construction: the more general rules are not sufficient, and the more specific rule is not otherwise motivated but must be added to the theory as a patch to maintain the grammaticality of the unusual feature. This article explores the question of one way anomalous syntactic rules develop and how to account for them in theory. Before looking at specific examples (Section 3), it is important to consider the nature of grammaticality in languages and linguistic theory (Section 2).

2. Grammaticality and grammaticality illusions

A sentence is considered to be grammatical if it is generated by the rules of the language,[1] while a sentence is considered to be acceptable if it feels natural to speakers. Usually these two factors align, even to the extent that we may often substitute acceptability ratings in grammaticality judgment

[1] Namely, this is the grammar in the mind of a native speaker. With our grammatical theories we try to closely approximate that grammar, but if our model diverges, it is wrong (or simply irrelevant), and we must defer to the speaker. Thus we must define grammaticality strictly with reference to the generative competence of a speaker.

tasks, but there are exceptions.[2] Particularly complex sentences may be hard to process or pragmatically unusual sentences may seem unnatural, for example. Yet we would usually expect an acceptable sentence to be grammatical.

Nevertheless, researchers have identified examples of sentences which appear to be acceptable to speakers but on closer inspection cannot be generated by the grammatical rules of the language or may even be meaningless. These are called grammaticality illusions. Consider the four types of grammaticality and acceptability interaction in Table 1:

Sentence types	**Grammatical**	**Ungrammatical**
Acceptable	The dog chased the cat.	***The rat the cat the dog chased hid.**
Unacceptable	**!The rat the cat the dog chased scared hid.**	!*Chased dog the cat the.

Table 1. Interaction of grammaticality and acceptability.[3]

The bold grammaticality/acceptability mismatch examples demonstrate an interesting phenomenon (Chomsky 1965:10–15). In cases of center embedding, which is difficult to process, the ungrammatical example with three noun phrases and two verbs actually appears to be more acceptable because it seems simpler to process, while the grammatical sentence with three noun phrases and three verbs is more difficult to parse and appears unacceptable (Frazier 1985; Gibson & Thomas 1999; *inter alia*).

Sometimes acceptability despite ungrammaticality can be robust even for an informed speaker. Consider the following example:

(1) *More people have been to Russia than I have.

Despite not having a meaning consistent with any underlying structure, this sentence sounds well-formed to most speakers, even after they are informed that it is not (Montalbetti 1984:6; Townsend & Bever 2001:184; Phillips, Wagers & Lau 2011:164–166; O'Connor 2015; Christensen 2016; Kelley 2018; Wellwood et al. 2018).

[2] See also Bresnan (2007) for an experimental perspective on rare constructions that occur in natural usage versus judgments of (un)grammaticality based on intuition.

[3] The symbol "!" is used to represent unacceptability. Throughout the paper, examples are taken or adapted from cited sources, or based on the native speaker intuition of the author. Where English examples come from other sources, these are judged to be consistent with the author's intuition. An effort has been made to select robust illustrative examples despite the unusual nature of many constructions presented here.

These illusions are often interesting from a processing perspective (Phillips, Wagers & Lau 2011; *inter alia*) but are not usually considered important for syntactic theory: they are seen only as errors in performance. On the one hand, processing difficulties with layered center embedding explain why such sentences are rare even though the grammar can generate them. On the other hand, most illusions, such as (1), are not pragmatically relevant and for that reason are unlikely to be used. But could they ever conventionalize and *become* grammatical, and if so what would the resulting grammatical system look like?

Importantly, acceptability applies to a string of words, often in a pragmatic context (or imagined pragmatic context), whereas grammaticality by definition must refer to the surface form of the sentence paired with its structural parse and meaning. In fact, Hornstein (2013) takes issue with the common usage of those terms, citing as evidence some examples of grammaticality illusions and defining grammaticality for *sentences* (with hierarchical structures) and acceptability for *utterances*. In a comment on Hornstein's blog post, Tim Hunter argues that acceptability should refer to string-meaning pairs, which would actually make (1) unacceptable because speakers cannot identify a corresponding meaning for the sentence even though they abstractly believe one should exist. Therefore we could call (1) and the ungrammatical center embedding example in Table 1 apparently-acceptable if we were to use Hunter's stricter definition of acceptability. Grammaticality can be determined if we also add a hierarchical structure to the string-meaning pairs. Setting terminological issues aside for now, Hunter is correct in emphasizing that it is important to consider *which* meaning is considered for acceptability and grammaticality such as for the grammaticality illusion in (2):

(2) No head injury is too trivial to be ignored.

Most speakers intuitively understand (2) to mean 'we should not ignore any head injuries', but because it is structurally equivalent to (3), it actually should mean the opposite (Wason & Reich 1979):

(3) No missile is too small to be banned.

The difference between acceptability and grammaticality for (2), then, is that speakers find it acceptable when parsed in context with a different meaning than it would be assigned by the grammar. As a string of words, it is both acceptable and grammatical but for different meanings. It is in circumstances like this that a grammaticality illusion could potentially conventionalize, creating an anomalous relationship between form, structure and meaning for the newly introduced construction (Section 3).

More generally, grammaticality illusions do occur in normal usage in the context of negation, which can be a stumbling block for processing, especially when multiple negative elements co-occur in a sentence (Horn 1991, 2009; Liberman 2004, 2007; Zimmer 2005). Consider the question in (4) uttered after someone has retired or quit their job:

(4) Do you miss not having a job?

Although carefully parsed this question should mean something different, native speakers sometimes do (mis)use negation in this way, with the intended meaning clarified by context.[4] Liberman (2004) for example observed that more often than not the phrasing with 'underestimate' in (5) appears to be (mis)used with an intended meaning of 'overestimate':

(5) It is impossible to underestimate the importance of syntax.

It seems possible that contextual reinterpretations like this could lead to structural reanalysis and eventually introduce anomalous constructions to the grammar. Consider for example (6) and (7), which in colloquial English actually have the same meaning idiomatically. Examples of the effects of this process on the grammar are discussed in the next section.

(6) I couldn't care less about that research.
(7) I could care less about that research.

3. Reanalysis via linear form

Langacker (1977) defines syntactic reanalysis as "change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation" (see also Madariaga 2017). This model of syntactic change is not uncontroversial, having been challenged by Haspelmath (1998) and Whitman (2012) for example, but the examples discussed in the current article demonstrate that syntactic change can and does involve linear form at least for certain types of grammatical constructions.[5] More generally, this means that in some

[4] Similarly, in colloquial usage, presumably ungrammatical resumptive pronouns may occur when appropriate gapping strategies are either unavailable or difficult to process (Kroch 1981; Cann, Kaplan & Kempson 2005; Asudeh 2012; Beltrama & Xiang 2016; see also the references in Radford 2018:97), as in (i). Consider also *that*-repetition that may facilitate parsing (Staum & Sag 2008), as in (ii):

(i) I'd like to meet the linguist that Peter knows a psychologist that works for her.
(ii) I told him *that* for sure *that* I would come.

[5] Narrog (2017) points out that although in grammaticalization often both form and meaning change, change in form is secondary and can be considered epiphenomenal; along the same lines, Reinöhl & Casaretto (2018) observe that *prosody* lines up with grammaticalization, thus acting as a template for how reanalysis may occur. Structural

cases a diachronic shift between form and meaning can grammaticalize to create a synchronic mismatch between form and meaning. Specifically, this occurs when grammatical anomalies are not otherwise accounted for by more general principles of the language.

A typical example of syntactic change is the development of future auxiliaries from motion verbs, as in (8):

(8) I am going to visit the prisoner. (Danchev & Kytö 1994:65)

The motion verb *go* with an adverbial (purposive) clause is reinterpreted as an assertion about future events as opposed to a description of motion with purpose.[6] It is worth noting that (8) is still ambiguous in modern usage, so rather than reanalysis necessarily *replacing* an old construction, it may introduce an additional construction to the language. Each step of the development in this case is consistent with the general grammatical rules of English, even though different rules are associated with the same form. In other words, the change is mostly lexical, and all structural properties of the resulting future construction can be explained by analogy to existing constructions. The task of the analyst is only to explain the diachronic shift in the construction and its synchronic derivation; no new rules must be added to the grammar of the language.

Generally, diachronic change occurs as lexically-driven quantitative shifts in the distribution of grammatical rules rather than qualitative changes in the possible types of rules. And when rules do change, they tend to change consistently for the language as a whole. Consider the stages of

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reanalysis is also important for real-time online processing so that the hearer may adjust their parse of ambiguous or confusing input to match the intended interpretation of the speaker (Fodor & Ferreira 1998). In contrast to the type of examples discussed in this paper, that type of reanalysis would typically only involve grammatical devices shared by speaker and hearer, rather than innovation; on the other hand, we do often understand speech despite speech errors, which requires real-time mapping of structural parses to novel surface forms. Furthermore, children learning a language develop adultlike grammars incrementally, such that input that is grammatical from the perspective of an adult speaker and the speech community in general may be ungrammatical according to the child's current mental grammar, and reanalysis of novel input in parsing results in an expansion of that mental grammar (Bever, Carroll & Hurtig 1976:177–178; see also Section 5 below), while at the same time the child must balance this with the need to reject contradictory, ungrammatical input that occurs in adult speech (*e.g.*, *Want a cookie?*: Valian 1990).

[6] Haspelmath and Whitman would likely point out that this change involves a word-class change (verb>auxiliary) rather than rebracketing of the linear form. However, reanalysis still applies in a general sense in that the surface form was diachronically reinterpreted to refer to a different hierarchical structure (with an auxiliary rather than adverbial clause) in addition to the word-class change for *go*. The diachronic link between the constructions is the surface form; that link is more central for the examples below.

development for Germanic word order (illustrated with Modern English lexical glosses):

(9) He [[[the book] read] can]. (Original SOV order)
(10) He [can [[the book] read]]. (German 'V2' order)
(11) He [can [read [the book]]]. (Modern English)

Certainly there are difficulties in the analysis of Germanic word order, but for the most part it is readily compatible with syntactic theory, and a common topic for research (for an overview see Dewey 2006). Yet sometimes diachronic residue can build up for which analysis is more difficult (see also Gaeta's 2008 discussion of grammatical distortion and residue of grammaticalization). For example, consider the exceptional remnant of V2 (verb second) order in (12) still found in Modern English, where a frozen surface form is preserved, perhaps through reanalysis of negation as the trigger of inversion during the late stages of V2 word order:

(12) Not only have I studied German, but I have also studied Swedish.

Anomalies sometimes arise at what we could think of as an intermediate point in a grammaticalization path, or at least before the newly introduced properties spread elsewhere in the grammar. But even though this results in additional, distinct rules in a language, they still usually resemble other rules. Languages vary, but we might assume not in the *kinds* of rules they have. The unusual changes illustrated in the rest of this paper explore the limit of what types of syntactic change are possible and how they come about through reanalysis of linear form.

3.1 English prenominal adjectives

One grammatical anomaly in English is that asyndetic coordination with no overt conjunction is permitted for attributive, prenominal adjectives (Quirk et al. 1985:961), as in (13). Consider the following examples:

(13) relevant, interesting research
(14) *That research is relevant, interesting.
(15) tall young man

All other coordination in English requires an overt conjunction *and*: for nouns (**mother father*); for verbs (**sing dance*); and for predicative usage of adjectives as in (14). This means that an exceptional rule must be added to the grammar to permit asyndetic coordination in only one context and no others. We might question whether the adjectives in (13) are really coordinated rather than in a hierarchical configuration, but the ambiguity of (15) is clarifying: in the hierarchical structure in (16) we would

interpret this to refer to a young man who is tall for his age, while the coordinated structure in (17) would refer to a man who is young and also tall in general compared to other men (despite his age). Because the second reading is possible (and could be more natural with a pragmatically distinct variant like *short young man*), we can also assign a coordinated structure to (13). This is further supported by the fact that the adjectives can be reversed with no change in meaning (*interesting, relevant research*), and by the orthographic convention of using a comma (which if added to (15) would highlight the coordinated meaning).

(16) Adj [Adj N] (17) [COORD Adj+Adj] N

The structural anomaly of (17) is not yet explained: why is asyndetic coordination permitted in this case but not elsewhere in the grammar of English? As Fischer (2004) shows, Old English permitted overtly coordinated adjective phrases or one adjective before and another after a noun, while in Middle English multiple prenominal adjectives began to occur where one modified the other. Usage has extended in Modern English. The modern construction in (17) was likely modeled on (16) via the linear pattern *Adj Adj N*. In the first place, interpreting this sequence as (17) must have been a performance error, and even today there is no independent motivation for including asyndetic coordination in the grammar. Thus the only available explanation for why prenominal adjective coordination may be asyndetic is because of a conventionalized erroneous interpretation when the hierarchical relationship was not salient.[7] Without independent motivation for this as a more widespread part of the grammar, it is not unreasonable to consider it to be a sort of conventionalized grammaticality illusion: by definition grammatical but still anomalous in the grammar.

From a synchronic perspective, the theoretician is forced to patch the grammar with an additional rule to account for grammatical anomalies like this. More examples are presented in the following sections.

3.2 Additional examples

In Old Icelandic, third-person plural present-tense verbs were coincidentally homophonous with infinitives. By analogy, in a certain

[7] A complication or in another sense support for this tailored analysis is the fact that there is a conventional order for different semantic classes of prenominal adjectives, reflecting their original, scope-based hierarchical arrangement (cf. Adamson 2000), or indeed in actual hierarchical arrangement, an option still available alongside coordination; however, when adjectives equivalently qualify the noun, the order is reversible, as in (13).

construction, *preterite infinitives* developed (Heusler 1921:110, 139–139), homophonous to third-person plural past-tense forms as in (18):

(18) Biǫrn kuaþ suá vera skylde.
Bjorn say.PST so be.INF shall.PST.INF
'Bjorn said it should be so.'

In Modern Icelandic today, these forms remain in use in raising or exceptional case marking constructions, as in (20), for at least *munu* 'will and *skulu* 'shall' (Sigurðsson 2010:38), resulting in semantically vacuous tense-agreement:[8]

(19) Hún segist munu koma.
She say.PRS.REFL will.INF come.INF
'She says that she will come.'

(20) Hún sagðist mundu koma.
She say.PST.REFL will.**PST**.INF come.INF
'She said that she would come.'

A similar and particularly quirky example in English is the *try and* pseudocoordination construction (Ross 2013, 2014, 2018, forthcoming; Tottie 2012). Originating from reanalysis of *try* ('test') coordinated with other verbs (21), the construction took on the same meaning as *try to* by the late 1500s but was limited to non-finite contexts (infinitives and imperatives), where the semantic distinction between 'try and therefore do' and 'try to do' was weak (22).

(21) I will aduenture, or trie and seeke my fortune. (Tottie 2012:207)
(22) You maie (said I) trie and bring him in… (Ross 2013:116)

In the first place, this construction took advantage of an existing grammatical form, the uninflected infinitive or imperative of *try* plus another uninflected verb, and mapped it to a new meaning. But during the 1800s the construction further developed to allow *any* uninflected usage, including the bare present tense (23), but not third-person singular with *-s* (24), and it has even generalized to license *be* in present-tense usage (25):

(23) We already try and eat well.
(24) *He always tries and eat(s) well.
(25) I always try and be on time. (**I always be on time*.)

[8] Although the English translation appears to have finite verbs in the embedded clause, the Icelandic sentences involve infinitives, as shown for example by the fact that finite embedded clauses would require overt subjects (Pouplier 2003).

This peculiar restriction to the bare form of the verb is anomalous in the grammar, not explained by more general properties of the language and in fact not resembling any other rules of English at all.[9] The only reason it is allowed is because it *looks like* it should be: on the one hand, as shown by *be* in (25), the second verb is actually an infinitive, which of course is uninflected, but on the other hand, the apparent coordination still requires the verbs to be inflectionally parallel. Ross (2013, 2014, forthcoming) argues for a requirement of inflectional agreement between the two verbs to filter out ungrammatical examples like (24), but the distribution could also be seen as a conventionalized grammaticality illusion that treats (23) as if it is a combination of the independently grammatical sequences *I try* plus *try and be*, which are both potentially grammatical in their local contexts but not when combined in the sentence as a whole.

Similar instances of apparent syntactic double-dipping can be found for agreement with coordinated phrases (Pullum & Zwicky 1986:753–754):

(26) Either they or you are going to have to go.
(27) *Either they or I (are/am/is) going to have to go.

Whereas in (26) the homophonous form *are* is permitted because the same form is used for both subjects, even though they have different syntactic features for agreement, in (27) no surface-compatible form can be selected that would result in a grammatical sentence for both subjects. Pullum & Zwicky (1986) propose a universal Resolution Principle as a way to permit such usage in coordinate structures, thus adding a rule to universal grammar; alternatively, of course, a language-specific or construction-specific rule could also patch the grammar to explain the anomaly. Regardless, complexity is increased somewhere in the grammatical system.

Another unusual development in English coordination is the GoToGo construction (Zwicky 2002; Staum 2004), as in (28)-(29):

(28) I'm going to school and study.
(29) I'm going home and sleep.

This usage is rare but found in natural, colloquial usage by some native speakers of American English (Staum 2004). It appears to be a blend of two different sentences (30), or possibly a reanalysis of (31):

[9] A possible parallel is the *go get* (or *come see*) construction (cf. Pullum 1990; Ross forthcoming; *inter alia*), which also is restricted to uninflected forms, but it is not clear that the same theoretical account would necessarily apply to both. Regardless, at least one special grammatical constraint is required.

(30) I'm going to school. I'm going to go and study.
(31) I'm going to school and going to study.

In fact, syndetic coordination (with an overt conjunction) in general might be explained as a conventionalized grammaticality illusion. Coordinators grammaticalize from other words such as sequential discourse conjunctions like 'then' or prepositions like 'with' (Mithun 1988; Stassen 2000; Yuasa & Sadock 2002), presumably when speakers reinterpret the contribution of these once semantically-loaded words as abstract linking devices. The resulting coordinating constructions have been a constant puzzle for syntacticians. Popular analyses tend to be one of two types: either a ternary-branching structure with three daughter nodes, or a special type of binary-branching structure where the conjunction is the head and selects one of the conjuncts as a complement, with the other conjunct joined higher in the structure (cf. Zhang 2009). Either way, the structure of coordination is unique and the coordinator acts as a sort of semantically vacuous syntactic stowaway: the first approach would be an exception to the otherwise ubiquitous binary-branching found in X-bar and other syntactic theories, and the second approach requires a phrase headed by a conjunction to externally behave as if it is the word class of the conjuncts.

Similarly, many types of well-known difficulties in processing, such as garden-path sentences, are linear in nature.[10] Whichever possible alternative interpretations turn out to be useful for speakers may conventionalize. Grammaticality illusions are relevant for processing (Phillips, Wagers & Lau 2011) but also historical change and even syntactic theory. These cases support the need for some type of surface-level constructions in grammar (reflecting various hierarchical structures, as their linearized forms) to patch the holes in a more general grammar of the language (Ross forthcoming).

4. Typology of linear reanalysis

This section considers the range of variation in types of reanalysis based on linear form and proposes a preliminary typology for the phenomenon.

[10] Compare the well-known speech error of *agreement attraction* (Bock 1995; Dillon et al. 2017; *inter alia*), as in (i), to the cross-linguistic phenomenon of *closest-conjunct agreement* (Benmamoun, Bhatia & Polinsky 2009; *inter alia*), as in (ii), where the verb agrees with only the linearly adjacent noun, not the full coordinated plural subject. See also Morgan (1972), Morgan & Green (2005) and Beavers & Sag (2004:63–65) for relevant discussion about uncertain grammaticality in cases of complex agreement.

(i) *The **key** to the *cabinets* **were** missing.
(ii) Neem huwwe w hiyye. (Lebanese Arabic; alternative to PL form)
slept.3.**MASC**.**SG** **he** and she
'He and she slept.' (Aoun, Benmamoun & Sportiche 1994:215)

However, these types might best be considered prototypical extremes rather than necessarily distinct phenomena, because many individual cases exhibit mixed properties. We might even think of linear analysis as applying in these three ways in all cases, though to different degrees and at different stages of development.

4.1 Full reanalysis into exceptional constructions

A clear example of this type is the asyndetic coordination of prenominal adjectives discussed in Section 3.1. Although the resulting construction has some internally anomalous features that stand out as exceptions for syntactic analysis, it is otherwise integrated into the grammar as a whole. A new rule has been added to the grammar, and the exceptionality of such a construction is related only to how frequent or widespread that rule or type of rule is in the grammar. In another sense, after the grammar has been adapted to account for these conventionalized grammaticality illusions, they are no longer illusions *by definition* because the grammar has been patched. For example, once an inflectional agreement constraint is added to English grammar for the *try and* construction (or to Icelandic grammar for preterite infinitives), full linear reanalysis has occurred. All that remains is the unusual rule patching the grammar as an echo of the reanalysis from a grammaticality illusion.

4.2 Local collocations

There are certain cases where frequently associated strings of words are reanalyzed, resulting in new constructions. An example is the usage of infinitival *to* in English with an omitted verb understood in context (Zwicky 1982):[11]

(32) You don't have to, but you should.

While in English one might argue such usage is by analogy to stranded prepositions in relative clauses or phrasal verbs, a similar construction is developing in some dialects of Spanish as in (33), a language without those preposition-final contexts.

(33)	¿Trabajas	sólo	porque	tienes	que?
	work.PRS.2SG	only	because	have.PRS.2SG	that
	'Are you working just because you have to?'				

[11] In fact, further grammaticalization is attested, via lexicalization of auxiliaries, in the forms of *gonna* (<'going to'), *wanna*, etc., and may even be marginally productive with colloquial or dialectal examples like *finna* (<'fixing to') or *tryna* (Lane 2014).

Yamada & Vega-Valdez (2016) report that based on the geographic distribution of this construction not corresponding specifically to areas with a high level of bilingualism, and despite the superficial similarity to the English construction, this is likely an internal development in Spanish. The diachronic explanation, then, is that the construction *have to [verb]* has been rebracketed as *[have to] verb*, with a new constituent structure. The rest of the construction remains unaffected, including the selection of a complement verb, and in fact the meaning has also not changed. The grammar now permits ellipsis with *que*, but only in this complex auxiliary construction.

A similar development in some Spanish dialects is the potential for pluralization of the existential verb *haber* with plural nouns (Diaz-Campos 2003; Claes 2016) as in (34):

(34) Había-(n) problema-s.
EXIST.PST-(PL) problem-PL.
'There were problems.'

Perhaps English has been a catalyst for this reanalysis, but aside from superficial similarity in the existential constructions of the two languages, they come from very different sources. In English, the construction was originally locative, with the copula verb agreeing with the subject noun (that which existed *there*). In Spanish, the verb *haber* originally meant 'have' and therefore involves a null subject like weather verbs (*llueve* 'it rains') and can be literally translated as 'it has', obviously without agreeing with the structural object (*i.e.* that which exists). But reinterpreted as subject, the noun seems to attract plural agreement from the verb for some speakers (apparently with a shift in lexical meaning from 'have' to 'exist'), permitted in part because of flexible word order in Spanish (subjects before or after the verb). Note also that in colloquial English the opposite shift has been observed, with *there* reinterpreted as an expletive subject (Crawford 2005; Sobin 1994; *inter alia*) as in (35):

(35) There's books in the library.

Reanalysis like this is limited to local syntactic relationships but can still result in grammatical anomalies such as in (12) in the context of negation.

4.3 Blending and amalgams

The idea that a construction simultaneously represents two underlying forms was hinted at above in the discussion about *try and* (or Pullum & Zwicky's Resolution Principle) double-dipping in the syntactic structure. More generally, blending has been considered in the analysis of

grammaticality illusions. Townsend & Bever (2001:184) propose that some grammaticality illusions blend two similar (but individually grammatical) sentences with related meanings, as in (36), a marginal and arguably ungrammatical sentence, although such usage is attested:

(36) *That's the first time anyone sang to me like that before.
(a) That's the first time anyone sang to me like that.
(b) No one sang to me like that before.

Diachronically such usage may come from the tendency to try to parse messy input (Frazier & Clifton 2015) and just 'Good Enough' parsing (Ferreira & Patson 2007). Traditionally, in describing errors or poetic style, a sentence with mixed structures has been called an *anacoluthon* when a writer appears to shift to a different thought mid-sentence, or an *apo koinou* construction when two blended clauses transition at a shared word (Lambrecht & Ross-Hagebaum 2006; Meinunger 2011). But the fact that such sentences occur in normal usage should elicit the attention of theoreticians as well. Linguists have often descriptively called these *amalgams* or *grafts* (Lakoff 1974; van Riemsdijk 2001; Kluck 2011; De Smet & Van de Velde 2013; *inter alia*), including well-known cases such as presentational amalgams (Lambrecht 1988; *inter alia*) as in (37), and the *is-is* construction (Bolinger 1987; Massam 2017; *inter alia*) as in (38):

(37) There was a farmer had a dog.
(38) The problem is, is that syntax is complicated.

Another example to explore is the apparent development of *what* into a question marker in colloquial American English, as in (39):

(39) What did you eat a whole pineapple?

Although it may appear to be an instance of the widespread 'incredulity response' pattern (Szcześniak 2016), combining exclamatory *what* (offset with comma intonation) followed by a typical yes-no question (40a), the intonation of the whole sentence is that of a simple yes-no question (though often with final focus for emphasis) and the initial words are merged to [wʌdʒə]. Another likely source is a full question followed by tag answer (Arregi 2010; López-Cortina 2007), as in (40b). Presumably then this construction originates as a blend of two sentences with the same linear form, as in (40), but without the characteristic pause from either:

(40) (a) What, did you eat a whole pineapple?
(b) What did you eat? A whole pineapple?

However, this construction has grammaticalized one step beyond normal split interrogatives because the embedded 'answers' may not correspond to '*what*' (Fernández-Salgueiro 2013), as in (41):[12]

(41) What am I talking to myself here?

More subtle blends are also found. The following examples are marginal in English but not infrequent in normal, casual usage, as in (42)-(44).

(42) How is it like to speak French? (blend of *what is it like*+*how is it*)
(43) Where is it at? (blend of question *where* + answer *at* NP)
(44) I wish I hadn't've said that. (Fillmore 1985)

Extensive examples of this sort, also called *contamination*, are listed by Cohen (1987). See also Coppock (2010) and references therein on spontaneous blends in natural speech from a psycholinguistic perspective.

The phenomenon of discontinuous constituents might also be related to blending. The requirement of linearization for pronounceable output imposes some constraints on linguistic form, most obviously that only one phrase can immediately follow another. Yet there are constructions where phrases seem to compete for that adjacent position, as in (45):

(45) I saw a book yesterday that I wanted to read.

Whereas attaching *yesterday* at the end of the sentence would be ambiguous and might favor the wrong interpretation (*reading*, as opposed to *seeing*, yesterday; cf. Frazier & Fodor 1978; Ferreira & Patson 2007:80), in (45) the unambiguous higher attachment displaces the relative clause. One potential analysis of discontinuous constituency is as a repair strategy via blending two competing structures, especially because it is typically rare and spontaneous in most languages rather than conventionalized.

The idea of multiple structures combining to generate blends is also similar to Hankamer's (1977) proposal that *multiple analyses* may not be mutually exclusive in generating the same surface structures in speech, an insight particularly applicable to the diachronic perspective on conventionalization discussed here.

[12] Another interesting comparison provided by Fernández-Salgueiro (2013) is the contrast in acceptability of *wh*-modification between (i) and (ii), corresponding to the real *wh*-question structure of (40b) and the grammaticalized blend in (41). Note further that (i) would be ungrammatical with the monoclausal intonation of the blend construction in (ii).

(i) What the hell did you eat? A whole pineapple?
(ii) *What the hell am I talking to myself here?

As mentioned above, it is probably best in all cases of linear reanalysis to consider the effects of local collocations and blending as well as the integration of the construction into the grammar as a whole. Different factors may be more salient in each case, however. For conventionalized amalgams in particular, the extent to which each case is still an active blend of two distinct underlying structures, or whether it represents a new, hybrid construction in the grammar, is an open question.

5. Conclusions and outlook

It is worth revisiting the definition of grammaticality illusion, which may now be redefined as any situation in which a speaker's judgments do not align to a particular string of words with a particular structure generated by a grammar with a particular meaning. This permits grammaticality illusions of several types and corresponding paths to reanalysis, although most striking for the syntactician are those which are both pragmatically useful and structurally divergent.

We may also want to consider the concept of *linear grammaticality* in the sense that reanalysis can occur when a linear string of words is grammatical under any reading. If the hearer reinterprets the meaning of the utterance (in context), then a new parse may develop, and if conventionalized then syntactic change has occurred. Although grammaticality is best defined for corresponding pairs of sentences and meanings, speakers, via the phenomenon of grammaticality illusions, sometimes treat apparently acceptable strings of words as if they are grammatical and thereby actually make them grammatical by altering the grammar through their usage. Of course we have also seen that via blending a construction does not need to even exist as a single linear string of words but may be generated by overlapping two related (and independently grammatical) constructions. A possibly more important new concept then is that of *partial* or *local grammaticality* because short segments within a sentence tend to be grammatical, and they might be parsed only locally (see also Asudeh 2011). We could consider unusual constructions like *try and* to be like grammaticality illusions *synchronically*, blending two different segments as in (46):

(46) *I always try and be on time
(a) *I always try...*
(b) *...try and be on time.*

From a theoretical perspective, it is of course contradictory to think of a grammatical grammaticality illusion, but thinking of these constructions as conventionalized grammaticality illusions can still be insightful if we think of the synchronic analysis as involving a patch or exception, made

necessary by the construction's diachronic development.[13] Especially for grammatical anomalies but even for more typical types of syntactic change, the approach outlined in this article may be useful in understanding reanalysis and syntactic change in general. In fact, it is not unrealistic to consider all instances of syntactic change to be in a sense the conventionalization of grammaticality illusions, at least according to the broad definition given at the beginning of this section.

More broadly, this diachronic effect of linear form on synchronic structure also resembles Hawkins's (2004, 2014) Performance-Grammar Correspondence Hypothesis. Specifically, the *minimize domains* principle applies to head-dependent ordering and corresponds to the statistical tendency for languages to have mostly all head-initial or head-final orders for different phrase types because this minimizes the distance for identifying dependencies between the heads of each phrase (all at the beginning or all at the end) and thereby decreases processing difficulty. Harmonic word orders with consistent head-ordering are more common cross-linguistically, reflecting the preferred arrangement for processing. This is just one additional example of how linear form can be a contributing factor to diachronic change.

This is not the first time that ideas along these lines have been discussed in linguistic research. For example, the possibility of ungrammatical but acceptable sentences becoming conventional has caught the attention of other researchers, including a number of the references already cited above (and others, *e.g.*, Hornstein & Weinberg 1981:78; Frazier 2015).[14] Otero (1972, 1973, 1976; Contreras 1973; Knowles 1974) suggested the term *agrammatical*, arguing such usage exists outside the grammatical system proper. Sobin's (1994, 1997; Lasnik & Sobin 2000) 'virus theory' is another similar approach, although it is designed to account for prescriptively motivated forms as 'grammatical viruses' interfering with grammatical output (such as hypercorrect pronoun case-forms as in

[13] For a detailed diachronic study, see Gaeta (2013) on a form-meaning mismatch due to the interactive grammaticalization of two other constructions, resulting in the German 'scandal construction' that Meinunger (2014) discusses as a grammaticality illusion.

[14] Admittedly, most of the previous research on this topic is several decades old, as shown by the papers cited in this section, and there is no indication that these ideas have caught on or are even being taken seriously by linguists in general. However, the distinction between grammaticality and acceptability is still prominent in current research (Chomsky 2005). In fact research on the 'periphery', to be explained by reference to Chomsky's 'third factors' (*e.g.*, memory and processing), is now shown to be all the more important as 'core syntax' is being stripped down to the bare minimum following the philosophy of the Minimalist Program, or from another perspective as Construction Grammar places variation and surface form at the forefront at the expense of larger theoretical generalizations about hierarchical structure (Ross forthcoming).

between you and I) rather than the sort of colloquial expressions as discussed here. Jochnowitz (1987) specifically addresses the apparent gap of acceptable but ungrammatical sentences in Chomsky (1965:11–14), based on data from the quirky grammar of profanity (for which see also Gregersen 1977; McCawley 1971).

Even Chomsky (1970:193–195) argued that certain acceptable but ungrammatical forms may arise due to blending of two grammatical forms by 'analogy' when neither form alone can express the intended meaning (cf. Hankamer 1972; Bever, Carroll & Hurtig 1976:175–176). In contrast to Chomsky's theoretical predictions, some speakers find (47) acceptable; he argues that it is still ungrammatical and rather strongly asserts that the acceptability of such 'derivatively generated' forms "results from a failure to take note of a certain distinction of grammaticalness" and the speakers "are not aware of a property of their internalized grammar" (1970:194).

(47) *his criticism of the book *before he read it*
(48) his criticizing the book before he read it

In a series of papers, Bever, Langendoen, Carroll and colleagues discussed the relevance of acceptable but ungrammatical expressions for linguistic analysis, as well as acquisition and diachrony (see among others Langendoen & Bever 1973; Langendoen 1982; Carroll 1980). The detailed account of Bever, Carroll & Hurtig (1976) will be the focus of the following discussion. To maintain simple and consistent grammars, they state that "if an acceptability phenomenon can be accounted for by reference to an independently motivated extragrammatical system and if the phenomenon would require adding formal mechanisms to universal grammar, then the property is classified as extragrammatical" (1976:159). Yet it is unclear exactly when a phenomenon must be identified as such: "...they will at first be classified as 'grammatical' and then discovered to be 'ungrammatical' only after attempts to describe their grammaticality within a grammar have failed" (1976:160). A number of their illustrative examples, however, appear to assume a rather prescriptive grammar of English, taking colloquialisms as acceptable but ungrammatical exceptions. Furthermore, various alleged acceptable-but-ungrammatical examples may actually be better explained with reference to grammatical but unacceptable counterparts. Consider (49)-(50), which are ungrammatical according to Bach & Harnish (1979:199) because *please* is only licensed in imperatives, so (49) must be technically ungrammatical but acceptable for pragmatic reasons given actual use of such expressions. However, an equally plausible explanation is that the grammar overgenerates sentences with *please*, in the position of a typical adverb, and then pragmatics may filter out unacceptable sentences not functioning as requests, as in (50).

(49) Can you please pass the salt?
(50) ?You never please pass the salt.

Similar uncertainty applies to examples provided by Bever, Carroll & Hurtig (1976), which for reasons of space I will not elaborate on here.[15] Thus the most salient problems with these arguments are empirical, both in selection of examples and uncertain methodology for finding others. I hope the examples presented in this paper are more convincing. The relevance of their approach, however, lies not in the evidence, but taking this line of argumentation several steps farther by considering not only a psychological perspective on acquisition and language change, but also trying to identify the factors responsible for the types of acceptable ungrammaticality that might be found in natural language. They write:

> "What is of crucial importance for the present paper is that the speech production system differs at least in part from the grammar. This allows the possibility that speakers can utter sentences that in fact are ungrammatical but that are systematically predicted by the speech production system. Indeed, it is this partial mismatch between the speech production system and the grammar that is a dynamic source for potential neologisms." (1976:161–162)

Still, their specific arguments for the cognitive constraints that would predict or limit the types of grammaticality illusion in usage are not particularly convincing. In the first place, we are still, even decades later, ignorant of the specific psychological mechanisms involved in speech production, and especially the relationship between competence and performance. More critically, general cognitive biases would predict all languages to have the same grammaticality illusions, which may be true in for some cases, but certainly not for all of the examples they provide,[16] nor

[15] Methodologically, compare also Langendoen (1976). To briefly address one example, Langendoen & Bever (1973) distinguish (i) as an exception to the unacceptability of (ii); however, given that a general rule of prenominal adjective negation must exist in English to generate (iii), it would be simpler to assume (ii) is technically *grammatical* but blocked by the more conventional form *unhappy* (see also Aitchison & Bailey 1979; Bolinger 1980). As such, (ii) would be grammatical but unacceptable, and (i) would be not atypical.

(i) A not unhappy person entered the room.
(ii) *A not happy person entered the room.
(iii) A not very happy person entered the room.

Other cases are less clear. For example, revisiting footnote 4 above, we could instead consider *all* resumptive pronouns *grammatical* but ruled out by anti-repetition processing filters (cf. Bever, Carroll & Hurtig 1976:167–168). Such an approach would resemble proposals for 'global rules' (Lakoff 1970b; Ross 1972). This may not be desirable for various reasons, but serves to show that allowing for the possibility of literal synchronic acceptable ungrammaticality introduces a number of methodological challenges.

[16] For example, they hastily oversimplify pseudocoordination phenomena (1976:169–173) based on casual observations, not recognizing the grammatical properties of these constructions, nor cross-linguistic variation (for which, see Ross forthcoming).

some of the cases discussed in the current paper. These constructions are arbitrary and unpredictable. The purpose of this discussion is not to adjudicate the distinction between grammaticality and acceptability,[17] but we must return to a point assumed throughout this paper: although new expressions may *enter* a language as acceptable usage of ungrammatical forms, once they become *conventional*, they are, by definition, part of the grammar, and must be accounted for by any adequate grammatical theory.[18] Only a few of their examples appear to literally represent cases of acceptable ungrammaticality, in fact specifically because they have *not conventionalized*. Consider the contrast between the unacceptable form in (51), presumably generated by a general grammar of English possession, and the ungrammatical variant in (52), which is nonetheless more acceptable (1976:174).

(51) the three of you's book
(52) *the three of your('s) book

One of the strongest arguments made by Bever, Carroll & Hurtig (1976) is that children with developing grammars do in fact receive ungrammatical input relative to their current knowledge, which must be parsed and their mental grammars extended to match (see also footnote 5 above). In this way, expressions like (52), if encountered in actual usage, may enter the grammar. What is fundamentally missing from their account is how such expressions conventionalize (cf. Hankamer 1972; Fischer 1997). In their approach, it would appear that one could intuit which rules belong to the grammar, and which are extragrammatical, just by structural analysis of the language. Yet that cannot be the case, when there must be a distinction between processing effects and quirks *within* the grammar, even if not all grammatical rules are consistently or completely integrated.

In conclusion, grammatical anomalies can require special rules, and grammatical linear sequences (generated by any structure) can be reanalyzed with new (possibly unusual) structures, allowing exceptional usage to conventionalize. One tentative possibility is to consider grammaticality illusions or structure-blending to be active synchronic grammatical processes (for which see van Riemsdijk 2006; de Vries 2012;

[17] In fact, Riemer (2009) uses data along these lines to argue against distinguishing between grammaticality and acceptability. At the very least, we must approach arguments positing acceptable ungrammaticality cautiously.

[18] Another relevant consideration is individual variation (for example, see Pullum 1990:234 for a detailed discussion on variable acceptability of forms like *have come see*). Variation would be predicted from the sort of processing effects proposed by Bever, Carroll & Hurtig (1976), but conventionalization would eventually even out usage. Thus if the diachronic account proposed here is correct, these anomalous constructions would likely display especially high levels of variability at first, which would decline over time.

Hankamer 1972; 'tree-grafting' in Clements 1975; Bever, Carroll & Hurtig 1976; *inter alia*).[19] However, assuming at least that we do not want to analyze all such cases in that way, what alternatives are there? We must find some way to patch the grammar. One option is adding general grammatical rules, but this would quickly complicate the grammar overall. Another option is to use the approach of Construction Grammar: add a (lexically stored) surface-level construction with distinctive properties as needed. It is important both to consider core structural components of language and also to allow for surface-level exceptions to explain form (Ross forthcoming). Rather than determining one theory to be 'right' and another 'wrong', it may be a matter of which is right for which question in order to explain the core and the periphery of syntax.[20]

We could imagine a contrast between core grammaticality versus exceptional, peripheral grammaticality, when surface-level constructions rescue anomalous derivations. In that sense, perhaps the intuition about the anomalous nature of some constructions in a grammar can be related to whether the surface form is isomorphic to the hierarchical structure and thus whether surface-level constructions are required, meaning that conventionalized grammaticality illusions could be considered violations of core grammaticality (based on only the general rules of the grammar and no exceptional constructions). Of course a strict distinction between a literal 'core' and 'periphery' has yet to be established, and the relationship may be best conceptualized as gradient, while also allowing boundaries to shift over time as the properties of individual constructions are generalized and spread in the grammar. The purpose of this paper is exploratory rather than terminological, however. Regardless, fruitful insights will result from continued research taking into account both the most general and also the most anomalous grammatical properties human languages have to offer for our analysis.

[19] Note also other reasons to consider at least blending to be an available cognitive device, such as the blending of idioms (Cutting & Bock 1997), or conceptual blending more generally (Fauconnier & Turner 1996), and that blending is available at least in the creation of speech errors (Stemberger 1982). Furthermore, we might also consider coordination to be, in some sense, an instance of productive syntactic blending (see Section 3.2 above and discussion in Ross forthcoming).

[20] An open question is whether or how these ideas could also be extended beyond syntax to other domains such as phonology, where a diachronic perspective on synchrony may likewise be helpful (*e.g.*, Bach & Harms 1972). Consider for example so-called 'ghost segments' which are no longer pronounced but still have synchronic phonological effects (Szpyra 1992), the analogical extension of irregular morphophonological forms as found in child language (cf. *bring brang brung*) and as a potential marginally-productive strategy for novel words (Albright & Hayes 2003), or even new derivations following the Great Vowel Shift patterns (*e.g.*, /ɪ/ > stressed /a̱ɪ̱/, perhaps via orthography: Jaeger 1984), such as for recently borrowed words.

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